SUSTAINABLE DEVELOPMENT MODEL OF CHRYSANTHEMUM AGRIBUSINESS

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ABSTRACT

A survey was applied in this study. This study was focused on analyzing the superiority of chrysanthemum as well as designing the development model of chrysanthemum agribusiness. Unit for the analysis were chrysanthemum farmers' business included small, middle and a large scale of businessmen; with additional information provided by agency and expert who were involved in chrysanthemum development. The results of this study indicated that chrysanthemum was satisfied enough to meet superior criteria. Chrysanthemum was also economically viable as ornamental plant. Chrysanthemum could be well developed as superior ornamental plant related to its influential factors. The results of this study also indicated that chrysanthemum development as superior ornamental plant was significantly influenced by factor and demand conditions besides the support of related industries, competition, structure and strategy of the company.

KEYWORDS: Development, Chrysanthemum, Superior

INTRODUCTION

The challenge of Indonesian agricultural development in facing agribusiness era related to a dominant small scale of business conducted by millions of farmers with relatively low educational level, small size of planted area, low of capital as well as low productivity. Those conditions were less favorable for competition in a global market since farmers with small scale of business were not able to apply specific local advanced technology which in turn would affect upon low efficiency of business as well as low product quality.

Low product quality as viewed by Hayami and Godo (2005) would affect the selling price of the product in the market. The main concern of agriculture in the developing countries related with food prices and low farm income.

On the other hand, government efforts in agricultural development were still conducted in form of unsustainable project. As a result, those efforts have failed unilaterally due to the lack of appropriate institutional development strategy.

According to Rostow (1960) in Priyarsono, et al (2010), reliable agricultural sector is a prerequisite for development of industry and service sectors. Empirical observations show that most countries can only reach the stage of sustainable economic development driven by the industrial and services sectors preceded by the progress in the agricultural sector. Thus, if this sector is exploited proportionally, it would provide multiplier effect that may encourage significant further development.

To meet the challenge of global competition, developing superior agricultural commodity need to be conducted. Its development must be directed to support the development of economic sectors which potentially creating a larger employment opportunities that may provide a good prospects to improve the welfare of society. By these reasons, this study focused on the development model of competitive and sustainable agribusiness superior commodity. According to

Saragih (2001), the development of agribusiness sector as Indonesian economic development strategy is a must for the democracy of economic development. According to him, agribusiness can be a source of economic growth, employment providers, encouraging regional development, and major source of foreign exchange. Agribusiness already implied the changes of economic structure from agriculture to industry. Based on this view, agribusiness development in Indonesia is a logical development demands and its sustainability should be continued along with diversification and deepening agricultural development that has already being carried out.

The chosen commodity was chrysanthemum as a superior commodity of ornamental plant in the district of Sukabumi. The district of Sukabumi has potential natural resources with good agro climate, fertile soil which are suitable for the growth and the development of agriculture. Those potential have to be directed into the development of high competitive commodity as well as maintaining her natural preservation. According to Hermanto (2009), appropriate agricultural development policy in every district is important so that the value added for the betterment of society can be ascertained.

By those reasons, this study was carried out to analyze chrysanthemum superior potency as well as to provide a recommendation for development model of sustainable chrysanthemum agribusiness. The application of this model can be used as one of the efforts to increase agricultural development, specifically in the District of Sukabumi.

METHODOLOGY

A survey was applied in this study. The study was focused in analyzing the superiority of chrysanthemum as well as designing development model for chrysanthemum agribusiness. The units of its analysis were chrysanthemum farmers' business included small, middle and a large scale of businessmen; with additional information provided by agency and expert who were involved in chrysanthemum development.

The sample was sorted out through cluster sampling, in two stages. The first one was to decide the sub-district location and the village. The village chosen based on the existing size of planted area. The second stage was to determine sample of the farmers that was randomly selected in each of the chosen villages.

Design of Analysis

- Superior analysis was carried out by using description scoring method through evaluation toward indicators from each superior criterion. Determining superior commodity with description scoring method consists of 8 criteria (Alkadri, 2001), such as:

  - The main booster of economic development/economically reliable.

  - Able to compete with similar products from other regions in the national and international market.

  - Business connection with other regions.

  - The number of laborers absorbed, farming experience and related skills.

  - Able to survive in the long term.

  - Not vulnerable to internal and external disturbance.

  - The existence of government support.

- Environmental sustainability oriented.

- Development model of chrysanthemum was designed using analysis of Structural Equation Modeling (SEM). Before the model designed, identification toward factors that could affect the development of chrysanthemum was carried out. Thus, from the results of SEM analysis can be created the development model of sustainable chrysanthemum agribusiness.

RESULTS AND DISCUSSIONS

Chrysanthemum as Superior Ornamental Plants

According to Hendayana (2003), steps toward agricultural development efficiency can be reached by developing a commodity that has a comparative advantage in terms of supply and demand side. From the supply side, superior commodity was characterized by biophysical, technology and socio-economic condition. From the demand side, superior commodity was characterized by a strong market demand both domestic and international.

The result analysis of superior criterion on chrysanthemum indicated the value of 62,33. This value was considered good enough with maximum criterion value is 90. Chrysanthemum production in the district of Sukabumi spread over sub-districts of Sukaraja, Sukabumi and Cidahu. As ornamental plant, chrysanthemum could be saying to be economically viable with the R/C ratio of 1, 81 (>1). Chrysanthemum was able to compete with the similar products from other regions but only at national market level. One of the reasons was that it could not be able to reach standard for export quality as well as related to infrastructure and distance issues. So, the farmers were not willing to take the risks. Based on the farmers' reasons, the majority of chrysanthemum farmers as respondents were the risk averse. Meanwhile, according to Fauziah, et al (2010), mention that based on the results of this study farmers who chose *risk averse were* caused by risks they dealt with. In case of failure, it will cause them not able to fulfill the needs of their families, even for subsistence living. This condition also felt by some farmers of chrysanthemum in the district of Sukabumi where farming was the main source of income. So they were happy and comfortable to be in the safety zone. The study by Brick, Kerri et al (2012) concluded that the risk aversion could be averted along with the improvement of education. Therefore, the knowledge, attitudes and skills of chrysanthemum farmers must be improved through education, particularly through agricultural counseling.

In the process of its development, there was a connection with other regions related with market and supply of raw material. Meanwhile from the view of human resources, laborers absorbed quite a lot in numbers from the new point of planted area. The reason was that chrysanthemum need a lot of treatments to grow and well developed. Moreover, the farmers had sufficient farming experience where they inherited it from their parents, so that they were quite skillfully in chrysanthemum agribusiness.

Although most of the farmers got farming experiences from their parents, innovation was needed for the betterment and success of farming. According to Porter (1998), the main key of production factor was "created", it is not derived from the legacy. From this study, it appeared that the more effective laborer available from the number and their related skills, then the better farming would be created. This was in accordance with the opinion of Ricardo who considered that only one factor of production was important to determine the value of a commodity, and that was the labor. According to Ricardo in *Labor theory of value*, the value of a commodity is proportional to the amount of labor required to produce it. Hence, Saptana (2010) showed there are factors other than labor and capital that can affect the competitiveness

that is as the advantage of learning which included education and training, traditional knowledge, research and development (technological innovation).

Chrysanthemum belongs to the ornamental plant that could not able to survive in long period. However, it was an ornamental plants which was not vulnerable over internal and external disturbance. There was no any government intervention over its price, so the price was consider as stable. Nonetheless, government support was relatively adequate, although not maximal. Finally, chrysanthemum agribusiness which has been running in the district of Sukabumi had already oriented towards environmental sustainability, where the use of organic fertilizers utilizing existed local resources were already done by the farmers.

The superior criteria was important to be evaluated. A commodity can be called to be superior if there are the involvement of the society, based on local resources and has a unique market opportunity as well. Methodology of description scoring could be used to determine whether a commodity is as a superior criterion or not. Due to the superior criteria analysis indicated that indicators of superiority for a commodity based on certain criteria. Commodities that met all specified superior criteria was a commodity that provide a good contribution in improving the farmers' welfare when it was developed in a focus way.

The Result of Test for Measurement Model

There were four exogenous variables in this study, consisted of : factor condition; demand condition; supporting and related industry; competition, structure and strategy of the company. Indicators of exogenous construct measured for factor condition (KF) was X_1 to X_4 (labor, availability of local resources (seeds/seedlings, water), adequacy of capital and infrastructure support); for demand condition (KP) was X_5 to X_6(ability sales and demand for the product.; for supporting and related Industries (IPT) was X7 to X10 (the presence of farmer institutional, access to financial institutions, counseling services and marketing agencies); for competition, structure and strategy of the company (USDP) was X11 to X12 (investment support for farmers, government policies related to farming (taxes, subsidies, price).Then, for the endogenous development of superior commodity was Y1 to Y3 (profitability, productivity and teaching/counseling activities).

What follows is a summary of the estimated structural model that describes the relationship between latent variables:

Tabel 1: Summary of the Estimated Result of Path Coefficient and Statistics Test

Path	Coefficient	T	p-Value	R-Square
KF➔ PKU	0,212	2,253	0,024	
KP➔PKU	0,298	3,512	<0,001	0,317
IPT➔PKU	0,346	2,764	0,006	
PSSP➔ PKU	0,181	1,934	0,053	

Source: Final Model Output

The above table shows the value of R-*square*is 0,317. It means factor condition; demand condition; supporting and related industry; competition, structure and strategy of the company all together provide the effect of 31.7 percent against the development of superior commodities. The remaining of 68.3 percent is the influence of other factors which are not being examined.

Currently there are some sub-districts in Sukabumi that became the basis location for several types of food, vegetables and fruits in each agro-ecosystem. But there were no kind of food, vegetables, fruits and ornamental plants

localized in all sub-districts in Sukabumi. Moreover, there were no sub-districts in Sukabumi that specialize in one type of food crop, vegetables, fruit and ornamental plant. As a matter of fact, if agricultural development could be arranged by developing its best commodity which considered superior not only from the supply side but also from the demand side, it may have a good competitiveness, then the commodity could be as a leverage for the district of Sukabumi. That condition is in line with Syafaat and Supena (2000) who viewed the concept and the meaning of superior commodity from two sides, supply and demand. According to them, from its supply side, superior commodity should perform its superiority in biophysical condition, technology and socio economic of the farmers in a certain region. This social economic condition involves application of technology, ability of human resources, infrastructure, such as habits of the farmers and market. Meanwhile from its demand side, superior commodity is commodity with a strong demand over domestic and international market as well as its competitive superiority.

The development of chrysanthemum as a superior ornamental plant in the district Sukabumi would be well developed by considering its influential factors. The success is demonstrated by three indicators of profitability, productivity and learning. The results of this study indicated that the development of chrysanthemum as an ornamental plant significantly influenced by factor conditions, demand conditions, the presence of supporting and related industries as well as competition, structure and strategy. This is consistent with the theory of Porter's Diamond that the increase of competitiveness should consider those four factors. The results also supported Saptana study (2010) who has conducted conceptual studies on the micro-macro competitiveness which ended with important advice there was a coherence between macro-economic policies and micro-economic activities. The concept of Porter's Diamond found to be significant when it applied to agribusiness where its influence is significant even though there were other influential factors which are not examined as 68.3 percent. The results of the study conducted by Siti Endang Rahayu and Heru irianto (2013) also strengthen the concept of Porter's Diamond to be applied on the field of agribusiness.

The steps in preparing conceptual model in this study include the determination of type/characteristic of the model, identification of variables, classifying and defining these variables operationally.

The fifth steps that had been carried out in order to obtain variables and indicators which were assumed to be able to influence the development of local superior commodities. Before the model designed, identification toward the factors that could affect the development of superior commodity was arranged using the method of SEM (*Structural Equation Modeling*). Thus, from the results of SEM analysis the development model of sustainable chrysanthemum agribusiness can be creaed. (Figure 1)
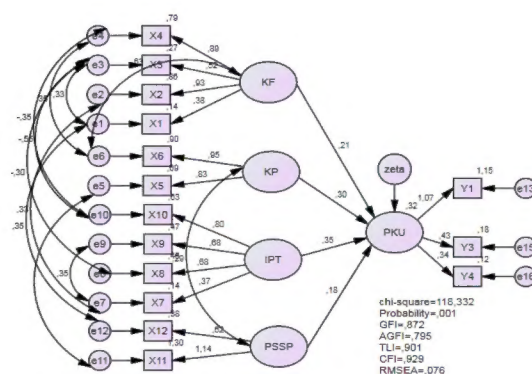

Figure 1: The Development Model of Sustainable Chrysanthemum Agribusiness in the District of Sukabumi

CONCLUSIONS

- The better factor condition; higher demand condition; increasing available supporting and related industries and the higher competition, structure and strategy of the company would make the development of chrysanthemum as superior ornamental plant better.

- The development of chrysanthemum as superior ornamental plant in the District of Sukabumi can maximized the increase of value added for the respected farmers and society by considering its influential factors.

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